Amendments to the Drawings:

The attached sheet of drawing includes changes to Fig. 8. This sheet, which includes Fig. 8, replaces the original sheet including Fig. 8. In Fig. 8, previously labeled elements 830 corresponding to the two memories within the TCM encoder (element 810) have been relabeled as elements 831 and 832.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes

REMARKS

Applicants respectfully request reconsideration in view of the following remarks and amendments. Claims 1 and 6 are amended. Accordingly, claims 1, 3-6, and 8-10 are pending in the application.

I. In the Drawings

Applicants have submitted a replacement sheet for Fig. 8 under 37 CFR § 1.121(d) to clarify the elements illustrated as the two memories within the TCM encoder (element 810). In particular, the two elements previously labeled as element 830, respectively, have been relabeled as elements 831 and 832.

II. In the Specification

In light of the above amendments of Fig. 8, Applicants have amended the corresponding paragraphs in the Specification that referenced elements 830 within TCM encoder 810. In particular, the amendments of the Specification clarify that the respective memories (i.e., memory 830) within TCM encoder 810 and precoder 820 are each a separate memory. Thus, because the amendments of the Specification are made solely to be consistent with the amendments of Fig. 8, Applicants submit that no new matter has been introduced.

III. Claims Rejected Under 35 U.S.C. § 112

Claims 1 and 3-5 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner has rejected the claims under § 112 because the recitation of "input values" and "input signals" are unclear, and there is no antecedent basis for the term "the memory."

In response, Applicants have amended claim 1 to clarify the difference between values stored in the memory of the TCM encoder, and values stored in the memory of the precoder, which are selected by the operation of the first switching unit and the second switching unit instead of the input signals. In particular, claim 1, as amended, recites the following elements:

a first switching unit for initializing output values of a trellis coded modulation (TCM) encoder and *a* memory *of the TCM encoder* performing switching to values stored in the memory of the TCM encoder instead of input signals *to* the TCM encoder every M period; and

a second switching unit for initializing output values of a precoder and *a* memory *of the precoder* by performing switching to values stored in the memory of the precoder instead of input signals *to* the precoder every M period.

(emphasis added). In light of the amendments, Applicants respectfully submit that claim 1 is now compliant under § 112, second paragraph. Applicants believe that the basis of the § 112, second paragraph, rejection of claims 1 and 3-5 arose because in Fig. 8 of the Specification, and the corresponding description, all of the memory units in the TCM encoder, and the precoder are identified by reference No. 830. However, as discussed above, Applicants have amended Fig. 8 and the corresponding sections of the Specification to clarify that each of the memories is, in fact, different. Moreover, dependent claims 3-5 are also compliant under § 112, second paragraph, because each of these claims were solely rejected because of their dependencies on claim 1. Accordingly, reconsideration and withdrawal of the rejection of claims 1 and 3-5 are respectfully requested.

IV. Claims Rejected Under 35 U.S.C. § 103

Claims 1, 3-6, 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0140867 filed by Weiss (hereinafter "Weiss") in view of U.S. Patent No. 6744822 issued to Gaddam et al (hereinafter "Gaddam").

Claim 1, as amended, recites the following elements:

A terrestrial digital broadcasting system, comprising:

a broadcasting station for multiplexing video, voice and additional signals into transport stream (TS) and transmitting the TS to the transmitting stations; and

a transmitting stations for receiving the TS and broadcasting the TS to receiving stations through a single frequency network,

wherein the broadcasting station includes:

a transmission synchronization means for inserting a field synchronization header to the TS in a predetermined data field period N, and

wherein the transmitting stations include:

a transmission synchronization detecting means for synchronizing the TS transmitted from the broadcasting station based on the field synchronization header; and

a trellis encoding means for generating initialization symbols of a predetermined length in a predetermined data field period M and synchronizing the TS outputted to the receiving stations,

wherein the trellis encoding means includes:

a first switching unit for initializing output values of a trellis coded modulation (TCM) encoder and *a* memory *of the TCM encoder* performing switching to values stored in the memory of the TCM encoder instead of input signals *to* the TCM encoder every M period; and

a second switching unit for initializing output values of a precoder and *a* memory *of the precoder* by performing switching to values stored in the memory of the precoder instead of input signals *to* the precoder every M period.

(emphasis added). As discussed below, Weiss in view of Gaddam fails to teach or suggest each element of claim 1.

In the Final Office Action, the Examiner contends that the first switching unit and the second switching unit are met by switch 320 of Gaddam as shown in Figure 3. However, as explained at column 4 of Gaddam, at column 4, lines 52-58, the switch allows data to be encoded as a higher-speed, lower-reliability transmission signal, or a lower-speed, higher-reliability transmission signal. In Gaddam, the inputs to mapper 150 of the trellis encoder are always z**0**, z**1** or z**2**. The switch merely controls the mapping of each bit z**1**, z**2** or z**3** to the input bit z**0′**, z**1′** or z**2′** of the mapper. This is to be contrasted with the present invention where the inputs x**1** and x**2** to the trellis coded modulation encoder, and the precoder are never replaced with values contained in the memories shown as block D in Figure 3 of Gaddam. In addition, this is to be contrasted with the present invention wherein values in the TCM encoder memory or precoder memory are provided as inputs to the mapper instead of the input signals x**1** and x**2**. As a result, for at least the above reasons, Weiss in view of Gaddam fails to teach or suggest each element of claim 1. Accordingly, reconsideration and withdrawal of the rejection of claim 1 are respectfully requested.

With respect to dependent claims 3-5, each of these claims depends on base claim 1 and incorporates the limitations thereof. Thus, in view of at least the previous reasons discussed in connection with claim 1, Weiss in view of Gaddam fails to teach or suggest each element of claims 3-5. Accordingly, reconsideration and withdrawal of the rejection of claims 3-5 are respectfully requested.

Claim 6, as amended, recites the elements of "synchronizing the TS outputted to receiving stations by generating initialization symbols of a predetermined length every predetermined data field period M with respect to the inputted signal, wherein the initialization

symbols are generated by performing switching to input values stored in a memory of a trellis coded modulation (TCM) encoder and *input values stored in a memory of* a precoder instead of the inputted signal" (emphasis added). The Examiner contends that the initialization symbols generated by performing switching are met by switchable trellis encoder 300 of Gaddam as shown in Figure 3. However, again, as explained at column 4 of Gaddam, at column 4, lines 52-58, the switch allows data to be encoded as a higher-speed, lower-reliability transmission signal, or a lower-speed, higher-reliability transmission signal. In Gaddam, the inputs to mapper 150 of the trellis encoder are always **z0**, **z1** or **z2**. The switch merely controls the mapping of each bit **z1**, **z2** or **z3** to the input bit **z0′**, **z1′** or **z2′** of the mapper. This is to be contrasted with the present invention where the inputs **x1** and **x2** to the trellis coded modulation encoder, and the precoder are never replaced with values contained in the memories shown as block D in Figure 3 of Gaddam. In addition, this is to be contrasted with the present invention wherein values in the TCM encoder memory or precoder memory are provided as inputs to the mapper instead of the input signals **x1** and **x2**. As a result, for at least the above reasons, Weiss in view of Gaddam fails to teach or suggest each element of claim 6. Accordingly, reconsideration and withdrawal of the rejection of claim 6 are respectfully requested.

With respect to dependent claims 8-10, each of these claims depends on base claim 6 and incorporates the limitations thereof. Thus, in view of at least the previous reasons discussed in connection with claim 6, Weiss in view of Gaddam fails to teach or suggest each element of claims 8-10. Accordingly, reconsideration and withdrawal of the rejection of claims 8-10 are respectfully requested.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207 3800.

Respectfully submitted,

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Dated: 5.16, 2008

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Melissa Stead

Melissa Stead 5-16, 2008